From: *A Questioning Framework for Shaping Environmental Literacy Charles E. Roth, Earthlore Associates*

C. USING QUESTIONS

Who should use the Question-based Framework?

The questions in this framework should be useful to teachers, youth leaders, curriculum developers. Indeed it should be useful to anyone interested in the challenge of developing and nurturing environmental literacy in our citizenry in a way different from the typical instructional pattern of lecture and recite.**.**

The questions in the framework could be used to teach in almost any subject if they are broadly interpreted and applied in other contexts. The task of the environmental educator is to skillfully frame the scope, context, and timing of the questions so as to bring the relevant environmental concepts into better focus for the learners.

How can I elicit the Framework Questions from my kids?

The various questions will be most meaningful to the kids if they come up with them. You can of course, present the questions to them and let them decide if they want to pursue them or not. It is better if you start a dialogue with the kids that engages their interest and leads them to ask the questions themselves. If the questions emerge from their dialog the learners are more likely to pursue their own answers and do the work necessary to get appropriate answers in either formal or non-formal settings

In order to get kids to ask questions and explore for answers, the teacher or youth leader has to create a learning environment that is physically, psychologically, and emotionally safe for the learner. The questions have to become couched in words that are comfortable and understandable for the age group and the questions need to be revised with the learners to a level and scope that any resultant actions are potentially doable by the learners.

It helps if you, the teacher or leader, prepare the dialogue beforehand by asking some questions yourself about the topic and using the data base of questions to help sharpen your own approach. Then you can engage the learners in a similar dialogue but be careful not to be too leading in the questions you ask them.

What is the role of Questioning in shaping change?

Robert Graef offers the following couplets to indicate the value of questioning strategies:

"Answers tend to terminate curiosity.
Questions stimulate and direct curiosity
"Facts" are valid only until disproved.
Good Questions usually have much longer lives."
He further suggests that: "One isn't asked to "believe" questions, only to ponder them… good questions go on seeking after truth."
Also consider the following:
"**Questioning** is a basic tool for rebellion. It breaks open the stagnant hardened shells of the present, and opens up the options that might be explored.
Questioning reveals the profound uncertainty that is imbedded deep in all reality beyond the facades of confidence and sureness. It takes this uncertainty towards growth and new possibilities.

Questioning can change your entire life. It can uncover hidden powers and stifled dreams inside of you…things you may have denied for many years.

Questioning can change institutions and entire cultures. It can empower people to create strategies for change. **Asking A Question** that leads to a strategy for action is a powerful contribution to
resolving any problem.

Asking Questions that open up more options can lead to many unexpected solutions.

Asking questions that help adversaries shift from their stuck positions on an issue can lead to acts of healing and reconciliation.

Asking questions that are unaskable in our culture at the moment can lead to the transformation of our culture and its institutions.

Asking Questions and listening for the strategies and ideas embedded in people's own answers can be the greatest service a social change worker can give to a particular issue."

(Based on the work of Fran Peavey)

http://www.jobsletter.org.nz/vivian/stratq97.htm

What are some of the key questioning strategies to be used in implementing the framework?

Guidelines for Generating Questions. These include:

• Questions should be ANSWERABLE within a reasonable amount of time. That time frame is shorter with younger learners and can be increased as the learner matures.

• Questions should be COMPARATIVE, and the comparison must have some basis or general context involving a) common sense or logic, or b) prior knowledge that is pertinent.

• Questions should be somewhat TANTALIZING, being neither obvious nor tedious.

• Questions should AVOID SCIENTIFIC JARGON and AVOID HIGH TECH TOOLS.

There are actually many categories of Questions to be used in guiding learners. Each category is focused on particular aspects of learning. In guiding a learners development of ideas about particular issues a mix of questions from each of the categories is most helpful. Categorizing the questions is a learned skill, helping learners frame and explore questions is still the basic task.. One categorization of questions is as follows:

Process questions

Context setting questions

Focusing questions

Investigative questions

Connection questions

"What if "questions

"How do we know" questions

"What does it mean-to-me "questions

Implication questions

Values questions

Ethics questions

Additional Types of Questions *

Comparison
• How are these things alike? What particular characteristics are similar?
• How are they different? What particular characteristics are different?
Classification
• Into what groups could you organize these things?
• What are the rules for membership in each group?
• What are the defining characteristics of each group?
Induction
• Based on the following facts (or observations) what can you conclude?
• How likely is it that_____will occur?
Deduction
• Based on the following generalization (or rule or principle) what
predictions can you make or what conclusions can you draw that must be
true? • If _____, then what can you conclude must happen?
• What are the condition that make this conclusion inevitable?
Error Analysis
• What are the errors in reasoning in this information?
• How is this information misleading?
• How could it be corrected or improved?
Constructing Support
• What is an argument that would support the following claim?
• What are the limitations of or assumptions underlying this argument?
Abstracting
• What is the general pattern underlying this information?
• To what other situations does the general pattern apply?
Analyzing Perspectives
• Why would someone consider this to be good (or bad or neutral)?
• What is the reasoning behind their perspective?
• What is an alternative perspective and what is the reasoning behind
it? *

D. DEVELOPING CURRICULUM FROM THE QUESTION-BASED FRAMEWORK

What is the teacher's role in developing curriculum from the questioning framework?

• Choose questions you think are appropriate to the developmental level of your
group.
• Determine any discipline-oriented skills and content the students will need to
have mastered in order to be able to investigate the questions.
• See that most of those skills and content have been learned or can be soon
taught to the learners.
• Create some experiential projects that will help students have direct
involvement with the environment relative to the various potential
questions.

• Dialogue with the students to help them "own the questions" for themselves. • Guide the students in cooperative groups to answer the questions and
determine the reliability and validity of their answers.
• Work with the students to develop appropriate assessment of their work.

How can you use the framework to develop non-formal youth programs?

A key aspect of designing programs based on this Framework is to consider the places learners should see and visit while seeking answers to selected questions. Help students to consider these questions, even restate them in their own words. Then create opportunities for the learners to visit places, interact with people, and reflect on their findings as they explore the questions. Also create opportunities for learners to become involved in appropriate environmental issues and participate actively in the decision-making process.

The key difference between formal learning, primarily schooling, and non-formal learning focuses on who controls the learning objectives and the means of learning.
• In formal learning the institution controls both the objectives and the means of learning.
• In non-formal learning the learners control the objectives but not the means of learning. (Mocker and Spears,1982)

School or club or youth organization, the questions are the same for either venue. It is however, often difficult for school groups to get out and gather direct evidence from different environments or to interact directly with people in the community. This is much more an option for youth programs. Youth programs are more likely to be able to take actions leading to issue solutions than many school groups. Awareness of these differences should help those developing youth programs to develop these in ways that do not simply duplicate school efforts but rather to complement them.

The educator has the responsibility of considering the outcome, the methods, the setting, and the learner in constructing the learning opportunities. In non-formal education, construction of the learning is the primary role of the educator; learnersbring with them their own objectives and thus a strong willingness to learn. In nonformal learning, the individual comes to the learning prepared to apply meaning to the information and experiences provided. In the long run, the only learning that truly influences behavior is self-discovered, self-appropriated learning. Meaning comes from within an individual, but it is the teacher who constructs a framework for learning from which meaning can be drawn. The non-formal educator can develop programs which by their design includes learner's prior experiences, beliefs, considerations, and aspirations. Thus, the non-formal programs provide a unique opportunity for true learning.